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**Written submission from the  
Canadian Nuclear Association**

**Mémoire de l'Association  
nucléaire canadienne**

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Regulatory Oversight Report for  
Canadian Nuclear Power Generating  
Sites: 2022 and Mid-term update for  
Ontario Power Generation's Pickering  
Nuclear Generating Station

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Rapport de surveillance réglementaire  
des sites de centrales nucléaires au  
Canada : 2022 et Rapport de mi-parcours  
d'Ontario Power Generation pour la  
centrale nucléaire de Pickering

Commission Meeting

Réunion de la Commission

**December 13 and 14, 2023**

**13 et 14 décembre 2023**

CNAREG-102176849-494

October 25, 2023

Senior Tribunal Officer, Registry  
Canadian Nuclear Safety Commission  
280 Slater St.  
PO Box 1046 Stn B  
Ottawa ON K1P 5S9

**Subject: Canadian Nuclear Association written intervention regarding Commission meeting on the Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2022**

Dear

Recipient,

The Canadian Nuclear Association (CNA) has approximately 100 members, representing over 76,000 Canadians employed directly or indirectly in exploring and mining, uranium, generating clean electricity, advancing nuclear medicine, and promoting Canada's worldwide leadership in science and technology innovation.

Part of our members are four world class clean electricity producers, Bruce Power, Hydro-Québec, NB Power, Ontario Power Generation which all hold licenses for their nuclear power plant and associated waste management and were therefore included in the Canadian Nuclear Safety Commission's (CNSC) annual program report, *Regulatory Oversight Report for Canadian Nuclear Power Generating Sites for 2022* (ROR).

During the 2022 year, all four members demonstrated continuous commitment and regulatory compliance, demonstrating the Canadian industry's leadership by maintaining a stellar record protecting health, safety, security of workers, the public and the environment. Our members stellar record was achieved in a transparent manner while being subject to the scrutiny of their own staff and leadership, independent and third-party expertise, the public from all horizons, provincial and federal jurisdictions, and authorities such as the CNSC.

The CNSC in turn as part of its multiple measures of check and balances publishes a yearly regulatory oversight report on the safety performance and regulatory developments of Canadian nuclear power plants and waste management facilities revolving on the CNSC's staff assessments and findings from compliance verification activities based on CNSC's 14 safety and control areas.

The CNA has reviewed the ROR and shares the CNSC's staff conclusion confirming the continued safe performance of our member's nuclear facilities despite sustained pandemic conditions and continued round the clock electrical power requirements while radiation does to workers, the public and radiological releases stayed all well below regulatory limits. Beyond the safety performance aspects, from the ROR the CNA is pleased to highlight the following:



- The CNA notes the mutual continued progress in working to advancing reconciliation with Indigenous Nations and communities, whether through CNSC's long-term engagement terms of reference or the industry and our members and licensees' consultation and engagement activities. The CNA and its members would like to reiterate their continued commitment to further continued reconciliation activities and development of programs to further augment such activities.
- The CNA and its members further note the positive outcome with respect to the CANDU industry's input based on operating experience, ongoing R&D activities and fracture toughness model development and updates supporting CNSC's conclusion of continued fitness for service with respect to initial Heq level assumptions.

The CNA and its members are conscious of the professionalism, dedication, responsibility and integrity required to produce reports such as the ROR and would like to express its uttermost gratitude and respect to the CNSC and its staff for the exhaustive and comprehensive ROR and extended as well to all interested parties involved providing good faith and rational feedback for the purpose of the public commission meetings of December 13 & 14, 2023.

Sincerely

 Digitally signed by Sorouche Mirmiran  
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Sorouche Mirmiran, P.Eng  
Director, Regulatory Affairs CNA



CNAREG-102176849-509

October 25, 2023

Senior Tribunal Officer, Commission Registry  
Canadian Nuclear Safety Commission  
280 Slater St.  
PO Box 1046 Stn B  
Ottawa ON K1P 5S9

**Subject: Canadian Nuclear Association intervention regarding Ontario Power Generation's Pickering Nuclear Generating Station mid-term update at the December 13/14, 2023 CNSC public commission meeting**

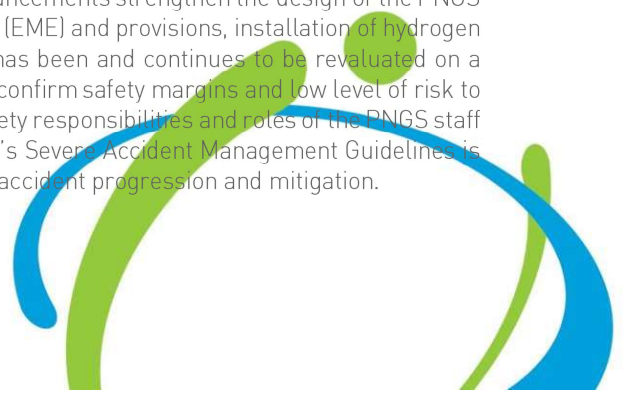
Dear Recipient,

On behalf of the supporting members of Canadian Nuclear Association (CNA) and regarding CNSC's public mid-term license review meeting which will be held on December 13 and 14, 2023 in Ottawa, Ontario, we are writing to provide you with CNA's overview of Ontario Power Generation (OPG) operations in the first 5 years of its 10-year license period initiated in 2018, and the outlook for the next 5 years until 2028. The CNSC's public mid-term license review of Ontario Power Generation 10-year power reactor operating license of generating station units 5 - 8 in Pickering, Ontario, provides all interested parties a better opportunity to value Ontario Power Generation's regulatory compliance and added value over the previous 5 years, and which in turn serve a rational basis to continued operation and some of the electrifying upcoming opportunities for all interested parties to strive for.

Ontario Power Generation is one of CNA members' which has approximately 100 members, representing over 76,000 Canadians employed directly or indirectly in exploring and mining, uranium, generating electricity, advancing nuclear medicine, and promoting Canada's worldwide leadership in science and technology innovation. With respect to electricity generation, today, nuclear energy produces approximately 20% of Canada's non-emitting electricity, including 30% of New Brunswick's and approximately 63% of Ontario's for which 20% of it originates from the Pickering Nuclear Generating Station (PNGS), 14% of Ontario's overall electricity from a single site.

OPG just like the rest of our members are committed to the safety of the public and protection of the environment throughout the entire life cycle of the nuclear industry and all play a critical role for the nuclear industry. Since CNSC's renewal of OPG's PNGS license in 2018, PNGS' safety record over the past 5 years can be summarized by a public dose which contributed equal or less than 0.2% of the annual legal limit, which for example translates to a radioactive dose of 0.1% relative to the natural background radiation of 99.9% for the 2022 year.

OPG's PNGS proven track record of safety has been ongoing since the 2018 license renewal encompassing multiple pillars common to the safety case of nuclear reactors all around the world. One such pillar is the continuous maintenance and improvement of the safety and safety-related structures, systems, and components (SSC) of a nuclear facility. Cognizant of OPG PNGS's design basis accident SSCs through multiple layers of defense in depth and major component fitness for service programs, OPG focused PNGS's safety enhancements on beyond design accident aspects incorporating lessons learned from stress case studies. As such, the safety enhancements strengthen the design of the PNGS by the addition of Phase-1 and Phase-2 emergency mitigation equipment (EME) and provisions, installation of hydrogen passive autocatalytic recombiners in all units, etc. OPG's PNGS safety has been and continues to be reevaluated on a periodic basis through determinist and probabilistic safety analyses and confirm safety margins and low level of risk to the public. Aware that safety doesn't stop with SSCs and of the crucial safety responsibilities and roles of the PNGS staff who live and work in Pickering and the surrounding communities, PNGS's Severe Accident Management Guidelines is another safety enhancement providing the staff with guidance on severe accident progression and mitigation.



Since the early days of humanity's nuclear energy journey, and due to the scientific and technological dimensions, safety, and societal benefits have always been an overriding priority and systematic part of all communications, even though the overall risk remained below many other day-to-day human and industrial activities. Similarly, OPG PNGS's approach, commitment, and results with respect to safety, remain a natural overriding priority and the mid term update a commitment to continued communication. Nonetheless, OPG PNGS's safety record and societal benefit isn't bound to clean, affordable, and reliable energy brought to society, instead its societal benefit set it apart on many other aspects.

Since OPG's PNGS license renewal in 2018, OPG has continued to set itself apart by its leadership as an engaged social actor with its staff, Indigenous communities, and environment. For its contribution to its staff, OPG has been recognized in 2023 as one of Canada's Best Diversity Employers after its launch in March 2022 of an Equity, Diversity, and Inclusion strategy which is also a hallmark of Canadian values at home and abroad for peace and prosperity. But OPG's inclusive outcome is not limited to its staff and follows Canada's path towards National Reconciliation, extending it to Indigenous communities embodied in multiple signed framework agreements with Curve Lake First Nation, Mississaugas of Scugog Island First Nation and ongoing progress with Hiawatha First Nation. At the heart of it all and shared by OPG staff, the Pickering and Indigenous community is the environment for which nuclear energy plays such a discreet efficient vital role against other human activities. OPG's PNGS protects the environment through its ISO 14001 certified environmental management system, comprising monitoring programs for effluent, spills, groundwater protection and further including biodiversity and wildlife habitat initiatives which have led to a top tier gold certification from Wildlife Habitat Council.

Conscious of such leadership, OPG PNGS's is well on its way and focused on becoming a net-zero company and contributing to a net-zero economy by 2050 amid sustained involvement with its surrounding communities as one of Canada's 'Best 50 Corporate Citizens' for the 10<sup>th</sup> year in a row. Furthermore, its leadership, safety track record and operational readiness will prove not only to be a pillar in continued operations but as well a pillar for refurbishment projects and continued operations beyond 2026 for units 5 – 8.

OPG's PNGS has been an important pillar to its community, Ontario and Canada and its leadership in science, technology, safety, security, and corporate responsibilities has shaped countless Canadians in becoming better and more responsible citizen and in return contributing back to society. After reviewing OPG's PNGS comprehensive mid-term update and considering our continued exchanges with OPG's leadership, CNA would like to use the opportunity provided by this intervention to renew its continued support to OPG's PNGS and all future looking interest parties.

Sincerely,

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**Director, Regulatory Affairs CNA**

